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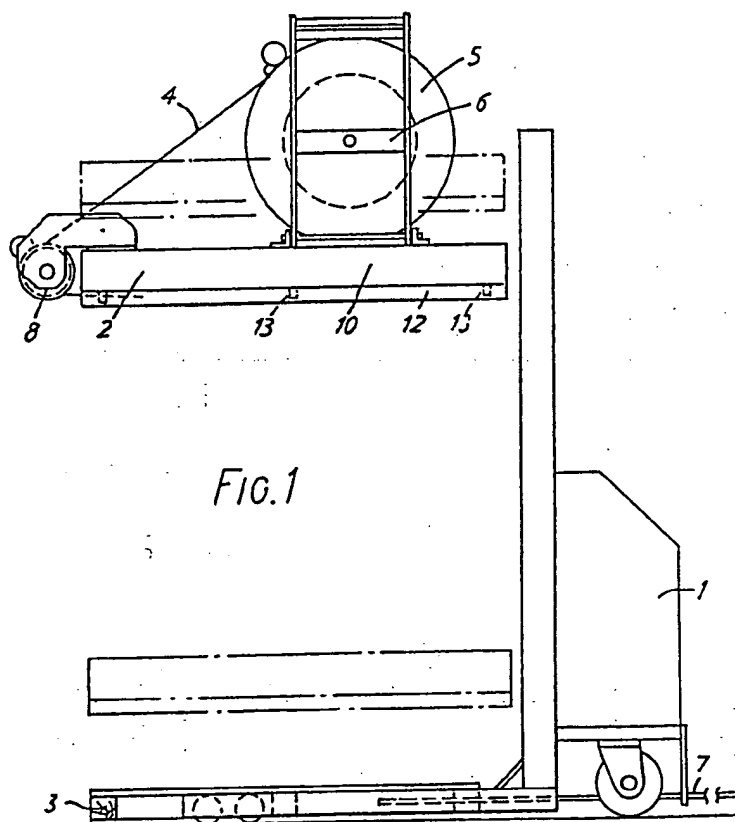
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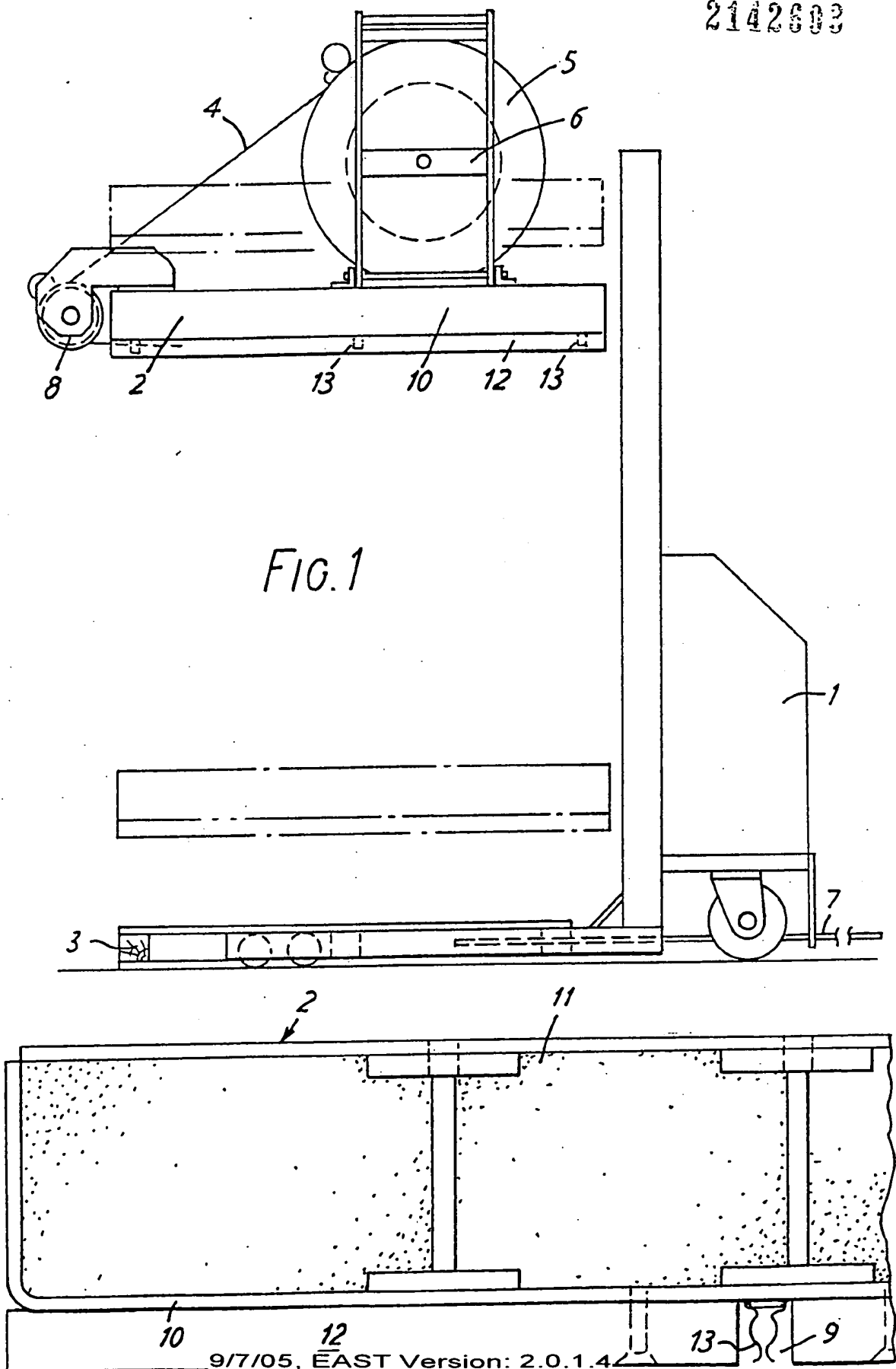
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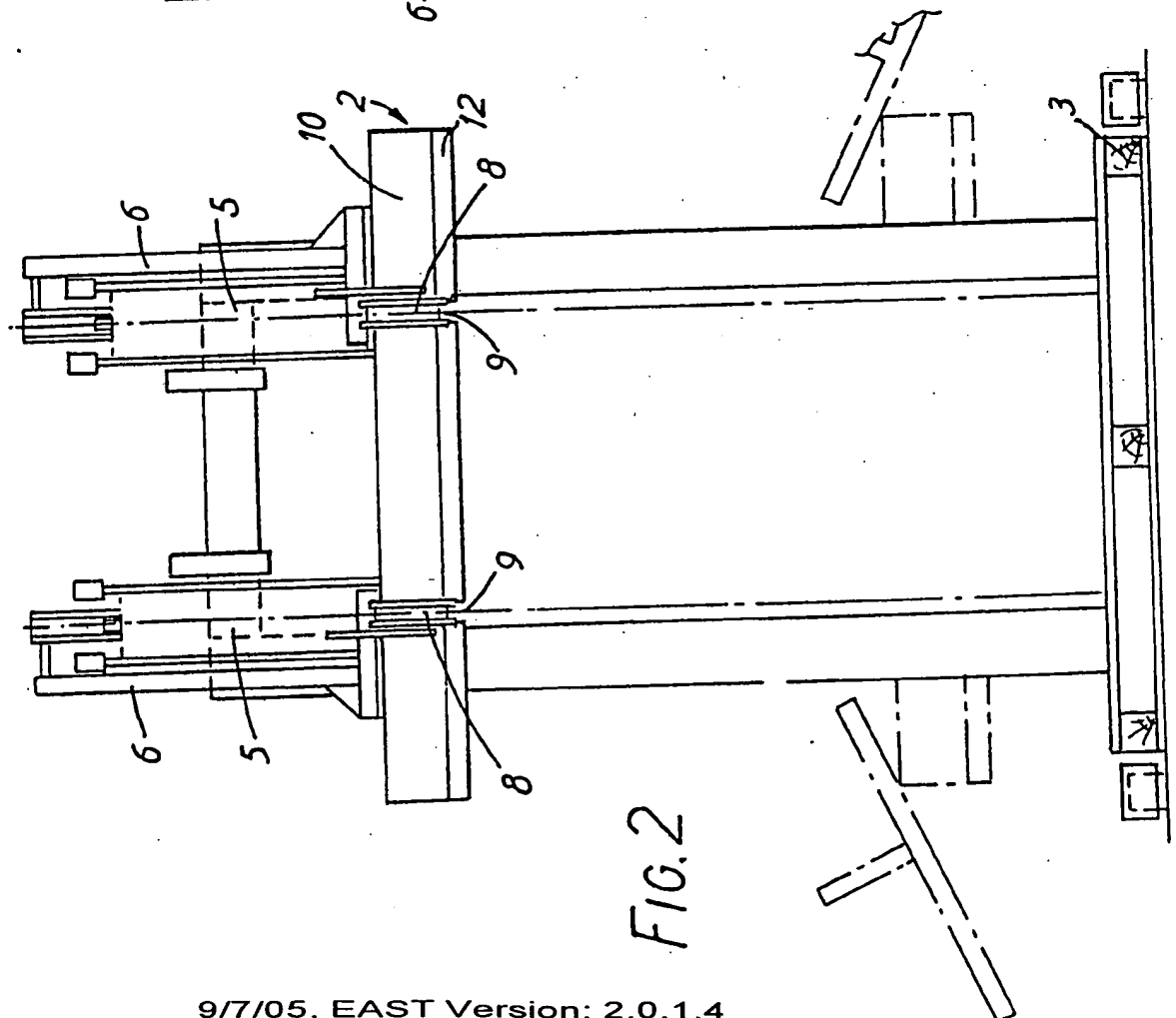
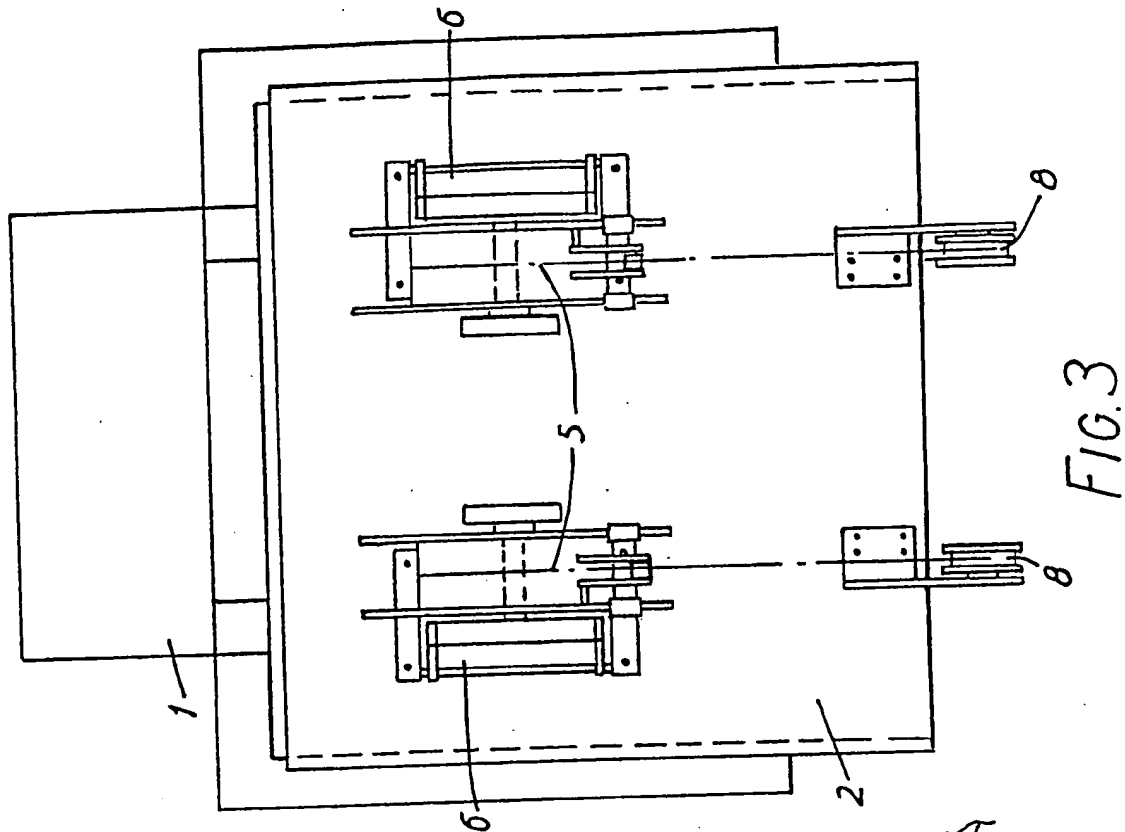
(54) Compressing and strapping packs of material

(57) A method of strapping packs of material, for example cardboard, comprises the steps of lifting a weighted platen (2) by means of a fork lift truck (1), encircling the pack to be strapped with strapping band(s), lowering the platen to compress the pack with its weight, and tightening and fastening the band(s). The weighted platen carries holder(s) (6) for reel(s) (5) of strapping and includes strap guide channel(s) provided with strap retaining spring clips (13).



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## SPECIFICATION

## Compressing and strapping packs of materials

5 The invention relates to a method and apparatus for compressing and strapping packs of materials. When packing materials such as corrugated board or flat pack cartons for transport it is convenient to strap the material in packs with steel or plastics straps applied by strapping tools. Considerable space can be saved if the packs are compressed during strapping. Compressing machines have been designed for this purpose, operated pneumatically, hydraulically or electrically. However, such machines are expensive. The present invention seeks to provide an economical solution to the problem.

According to one aspect of the invention there is provided a method of compressing and strapping packs of materials, the method consisting in lifting a weighted platen by means of a fork lift truck, situating the pack of material to be strapped beneath the platen, encircling the pack from top to bottom with one or more strapping bands, lowering the platen on to the pack to compress it, and tightening, fastening and cutting the strap or straps to bind the pack.

Preferably the platen carries one or more supply reels of the strapping, which may be steel or plastics, for example.

According to another aspect of the invention there is provided a platen for use in compressing packs of material to be strapped, the platen comprising a weighted platform suitable for raising by means of a fork lift truck, the platen having mounted thereon one or more holders for a reel or reels of strapping.

Preferably the underside of the platform has one or more channels to accommodate the strapping as it is fed around a pack of material on which the platen is allowed to rest. The strapping may be retained temporarily in the channel or channels by means of spring clips.

Conveniently, the raising and lowering of the platen is effected by a small, manually propelled, fork lift truck. The lifting capacity of such a truck is typically 2000 lbs, this being a convenient weight for the platen. Clearly, other kinds of fork lift truck may be employed if available. The invention makes use of a fork lift truck to provide the motive power for the pack compression by raising and lowering the weighted platen. The cost of equipment for pack compression is thus significantly reduced.

The invention will further be described with reference to the accompanying drawings, of which:-

55 *Figure 1* is a side elevation of apparatus used to perform the invention;

*Figure 2* is a front elevation of the apparatus of *Figure 1*;

*Figure 3* is a plan view of the apparatus; and  
60 *Figure 4* is a sectional view of part of the platen of the apparatus.

Referring to the drawings, the method of compressing and strapping a pack of material (not shown, but typically a stack of corrugated board)

65 makes use of a manually propelled, electrically

powered fork lift truck 1. The truck is used to raise a platen 2 which is weighted to have a total weight of about 2000 lbs. A wooden pallet 3 which carries the stack of board to be strapped is then positioned beneath the platen.

70 Strapping 4 is fed from two reels 5 mounted on the platen 2 by means of reel-holders 6 via a pulley 8 through spring clips 13 in each channel 9 down to needles 7 which carry the strapping and slide beneath the stack. Feeding of the strapping beneath the stack is facilitated by the needles 7. With the strapping bands in place the truck is operated to lower the platen on to the stack and thereby compress it. The bands are tightened, fastened and cut by hand-operated strapping tools. Finally, the platen is raised.

Figure 4 shows the platen in greater detail as comprising a steel tray 10 filled with concrete 11 for weight. Wooden boards 12 are screwed to the underside of the tray and the channels 9 are defined by gaps between the boards. In each channel 9 there are three spring clips 13 through which the strapping is fed and from which it is pulled as the bands are tightened and fastened.

90 The invention is not restricted to the details of the embodiment described above with reference to the accompanying drawings. For example, the strapping tools may be mechanical and automatic, in which case each strap would be guided around the pack in a guide chute.

95 The technique of using guide clips 13 may be modified. Perhaps only one or two clips per channel are necessary. Additionally, or alternatively, a clip may be situated beyond the end of the or each channel. The weight of the platen may be increased by the use of alternative ballast, such as steel shot. As shown, the platen is bolted to the hoist of the fork-lift truck in place of the usual forks. Alternatively, the forks may be used to lift the platen.

## CLAIMS

1. A method of compressing and strapping packs of materials, the method consisting in lifting a weighted platen by means of a fork lift truck, situating the pack of material to be strapped beneath the platen, encircling the pack from top to bottom with one or more strapping bands, lowering the platen on to the pack to compress it, and tightening, fastening and cutting the strap or straps to bind the pack.

2. A method as claimed in claim 1 wherein the raising and lowering of the platen is effected by a fork lift truck.

120 3. A platen for use in the method of claims 1 or 2, the platen comprising a weighted platform suitable for raising by means of a fork lift truck, the platen having mounted thereon one or more holders for a reel or reels of strapping.

125 4. A platen as claimed in claim 3 wherein the underside of the platform has one or more channels to accommodate the strapping as it is fed around a pack of material on which the platen is allowed to rest.

130 5. A platen as claimed in claim 4 wherein the

strapping is retained temporarily in the channel or channels by means of spring claiaps.

6. A method for compressing and strapping packs of material substantially as hereinbefore described with reference to the accompanying drawings.

7. Apparatus for compressing and strapping packs of material substantially as hereinbefore described with reference to the accompanying drawings.

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